RAINWATER BASIN WETLAND MANAGEMENT DISTRICT

Kearney, Nebraska

ANNUAL NARRATIVE REPORT

2005

U.S. Department of the Interior

Fish and Wildlife Service

NATIONAL WILDLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

Kearney, Nebraska

ANNUAL NARRATIVE REPORT

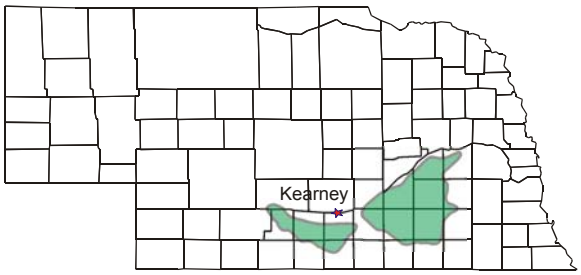
2005

	August 1, 2006		
Gene D. Mack		**David Wiseman**	
Project Leader	**Date**	**Refuge Supervisor Review**	**Date**

Regional Office Approval	**Date**

INTRODUCTION

Originally, the Rainwater Basin (Basin) in south central Nebraska contained more than 3,900 large wetland basins within a 17-county area. The Basin region covers 4,200 square miles of flat to gently rolling Peorial Loess Plains.



Wetland basins are generally large, shallow depressions with a deep clay layer lining the bottom–creating an impervious water barrier. The name Rainwater Basin comes from the basins' ability to go from dry to flooded conditions quickly–following heavy rainstorms and snow melts. The rapid filling of the depressions in an intense agricultural environment causes siltation and poor water quality to be continual problems. Soils surrounding the basins are very fertile, consisting of heavy silt loams and silty clay. Several hundred feet below the surface lay the Ogallala Aquifer, which is the source of water for the extensive amount of irrigated corn and soybeans. Irrigation canals deliver water from the Platte River, lying north of the region, to irrigate the southwest portion of the region. Agricultural and rural development has destroyed 90 percent of the original number of wetlands.

The Fish and Wildlife Service began acquiring wetlands in 1963 with the purchase of Massie Waterfowl Production Area (WPA). By 1966, 7,000 acres were acquired and a management office was established in Hastings, Nebraska. In 1976, the office was moved to its present location—Kearney.

The Rainwater Basin Wetland Management District (WMD) currently manages 61 tracts of land, 59 of which are Waterfowl Production Areas (WPA) totaling 22,864 acres. One of the remaining two areas is McMurtrey Wildlife Management Area that was transferred from the military. Its 1,052 acres are closed to public use. The other tract is often referred to as the Platte River National Wildlife Management Area (438 acres). This naming is not correct since the land is owned by the state of Wyoming. In past years, the land was managed through a memorandum of understanding. Currently no memorandum exists but we continue to manage the area.

WPAs are small isolated tracts of land scattered throughout the District. Most WPAs contain only one large wetland. All WPAs are managed as a grassland ecosystem. Wetland management is focused toward providing optimum waterfowl and shorebird habitats. The uplands are managed for a high diversity of native tall and mid-grass plant species. This office manages thirty-eight FmHA conservation easements, totaling 2,419.67 acres.

Spring migration is the primary focus of the Rainwater Basin WMD. Each spring, about six million snow geese, one million Canada geese, 90 percent of the mid-continent white-fronted goose population, 5-7 million ducks, and one-half million Sandhill cranes use the Basin and Platte River. Habitat becomes very critical during this time of year. Extensive pumping and aggressive wetland management are done to maintain quality habitat for resting and staging. Huge concentrations of birds, in a limited number of wetlands, annually pose a threat of an avian cholera outbreak.

In addition to habitat management on refuge lands, our office spends considerable staff and funds to restore wetland habitat on refuge and privately owned lands. Often, new refuge areas have the wetland drained and the upland farmed. Cost of restoration in some cases meets or exceeds the purchase price of the property. During 1991 to 1997, budget cuts and departmental reorganization reduced station staff by 44 percent and budget by 18 percent. During that same time period, land acquisition increased 25 percent and easements by 467 percent. The effect was large expansion of invasive plants, including noxious

weeds and volunteer trees. Since 1997, our station has focused on reducing weeds, trees, and shifting plant compositions toward high diversity native plant communities. In the early 2000's, funding began to increase along with staff. Currently we are full staffed and funded at a level that allows our station to meet its basic objectives. Programs such as visitor services and restoration continue to be done as opportunities arise. Our station has also worked to build partnerships with other agencies and organizations to help us accomplish the mission of the Fish and Wildlife Service. Many of the partnerships have become possible through the work of the Rainwater Basin Joint Venture.

Station Mission:

To protect, restore and manage wetlands and prairie grassland habitat in support of the North American Waterfowl Management Plan; provide resting, nesting, feeding, and staging habitat for waterfowl and other migratory birds; protect endangered and threatened species and their habitats; restore the natural flora and fauna associated with tall-grass and mixed-grass prairie ecosystems; and increase public opportunities for outdoor recreation and environmental education.

Station Vision:

Our station has begun its Comprehensive Conservation Plan (CCP). In doing so, a draft vision statement was developed. *"The Rainwater Basin provides important habitat for tens of millions of migratory birds and critical habitat for waterfowl, shorebirds and whooping cranes. The Region's name reflects both the basis of its wetland hydrology and natural precipitation cycles. A network of functioning wetland and prairie plant ecosystems, within an agricultural landscape, provide a native grassland mosaic that give the local community a sense of pride and connection to the Great Plains flora and fauna. The lands managed by the Wetland Management District serve as an example of land stewardship mimicking natural processes, and to provide an array of wildlife-dependant educational and recreational opportunities. It is only through partnerships with individuals, agencies, and organizations that this vision can be achieved and maintained."*

Station Goals:

New draft goals have been established in association with the CCP. They are:

- **Wetland Habitat Goal**
  - Protect, restore, enhance, and maintain the hydrology and early successional vegetation conditions essential to the conservation of migratory birds.
- **Upland Habitat Goal**
  - Re-establish and maintain native grassland communities of the Rainwater Basin WMD Waterfowl Production Areas.
- **Partnerships Goal**
  - The Wetland Management District will promote and develop partnerships with adjacent landowners, public and private organizations and other interested individuals to protect, restore, enhance and maintain a diverse and productive ecosystem.
- **Research Goal**
  - Encourage and support research that substantially contributes to our understanding and management of the Rainwater Basin wetland and grassland ecosystem.
- **Public Use Goal**

- The Wetland Management District will provide quality wildlife-dependant recreation and educational opportunities by fostering an understanding the basic ecological processes, purpose of the Rainwater Basin Wetland Management District and the mission of the USFWS for persons of all abilities and cultural backgrounds.

► **Administration Goal**

- Efficiently utilize funding, staffing, infrastructure and partnerships and ensure a safe work environment to achieve the purposes and objectives of the Rainwater Basin WMD.

Table of Contents

A. HIGHLIGHTS

Listed below are accomplishments in fiscal year 2005.

- **Climatic Conditions:**
  - Continued drought conditions but with huge one-time rain events. Kearney area received 20 inches in one storm.
- **Planning:**
  - Station began its Comprehensive Conservation Plan.
  - Andy Bishop and his position were transferred to HAPET Office in Bismarck.
- **Administration:**
  - Rusty Lammert transferred to US Treasury.
  - Ronnie Sanchez became Deputy Project Leader.
- **Habitat Management:**
  - Submersible engines placed on Harvard and Cottonwood.
  - Ducks Unlimited is restoring a wetland/roundout on Mallard Haven with plans to transfer title to the Service.
  - Sediment was removed from Funk WPA as part of new interpretive trails being built.
  - Ducks Unlimited has begun engineering on restoring Krause WPA wetland.
  - Private Lands Program is restoring the Gleason watershed by filling privately owned pits.
  - Almost 23,000 pounds of high-diversity grass seed was harvested and distributed to refuges and partners.
  - Patch-grazing was tested on Mallard Haven wetland and upland.
  - 5075 acres were treated with fire.
  - 3000 acres of weeds were treated. Large spray unit was purchased and used on Funk and Johnson.
  - Central Nebraska Public Power and Irrigation District allowed water service contracts to be transferred to other contract holders.
- **Wildlife:**
  - No cholera outbreak occurred.
  - Large concentrations of buff-breasted sandpiper and Hudsonian godwit were documented on the Basin.
- **Equipment:**
  - A 2005 963 Caterpillar crawler loader was purchased.
  - Engine on the Clark 290 scraper was rebuilt.

B. CLIMATIC CONDITIONS

Because the Management District extends over 14 counties, reporting specific rainfalls and temperature information would be voluminous and of little value. Enclosed on the CD is 2005 weather data for Kearney, Hastings and York. The file name is "2005_Weather_Summary.pdf ".

2005 was considered a drought year, which affected the western district more than the eastern. Ironically, Kearney weather station recorded almost 40 inches of rain during 2005—considerably higher than normal annual precipitation. The majority of the year's rain in the western district occurred in one event on May 11. **Nearly 20 inches fell in one day!** Flooding filled some wetlands that laid in the storm's path. Hastings and York only recorded 22 inches for the year. A tornado in Clay County scattered metal debris throughout Hansen and Massie WPA.

Rains from the previous year and more frequent rains in the east left some of those basins in good condition for spring and fall pumping. In the western portion of the District, drought continued to be extreme. Record low levels of water in Lake McConaughy caused Central Nebraska Irrigation and Public Power to allow, for the first time, for the owner of a water delivery contract to transfer his contract (one-year basis) to other irrigators. Our station participated in that program (See Water Rights section). This year, the Platte River did not go dry as it did in the previous two years. The dry conditions dramatically affected shorebird and waterfowl use in the District.

C. LAND ACQUISITION

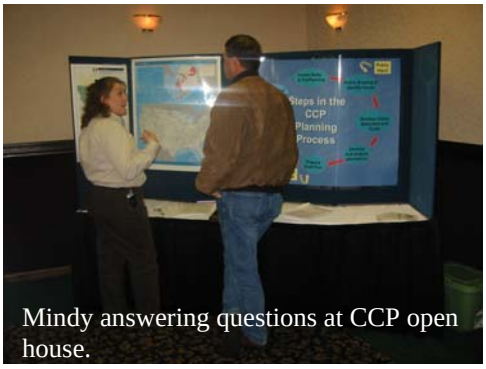
No land acquisition occurred in 2005. Land acquisition by the Service is nearly impossible. Limited funding has been directed to the Prairie Pothole Region and the Front Range of the Rockies in Montana.

Ducks Unlimited purchased a quarter section of land adjacent to the west boundary of Verona WPA. Their intent is to enroll the property into NRCS's Wetland Restoration Program. No plans are being made to transfer the property to the Service. Ducks Unlimited continues to work on restoring the Weiss tract on Mallard Haven. When restoration is complete, title to the property will be transferred to the Service.

D. PLANNING

1. Master Plan

- A master plan for this station does not exist. The station began its Comprehensive Conservation Plan (CCP) process in July. In December we had our kickoff meeting with staff from Nebraska Game and Parks and the Joint Venture. Notes from the kickoff meeting are in file "RWB_CCP_Kickoff_Mtg_Summary.doc"



Mindy answering questions at CCP open house.

a. GIS Shop

The Regional Office made the decision this year to standardize the GIS efforts occurring throughout the Region. In doing so, they transferred the administration of the Great Plains GIS program to the HAPET Office in Bismarck, North Dakota. Andy Bishop continues to head that office which is

located at the Grand Island ES office. It currently houses other GIS specialists associated with Rainwater Basin Joint Venture, Playa Lakes Joint Venture, Central Platte NRD, and Grand Island ES office.

2. Management Plan

Several plans were completed during the year.

a. Water Management Plan

Our annual water management plan was completed and we received a signed copy back from the Regional Office.

b. Habitat Management Plan

At the direction of the Regional Office, a formal Habitat Management Plan was developed. Staff members responsible for management spent several days addressing the current conditions and management actions for each WPA. The plan was put in table format. It can be found on the CD—file labeled "2005_Annual_Habitat_Work_Plan.xls".

c. Refuge Annual Performance Plan

2005 was the first year for the RAPP. It was designed by the Washington Office to replace the Refuge Comprehensive Accomplishment Report. One of the big differences is the RAPP requires forward planning for up to five years compared to just reporting accomplishments. The station's plan can be found on the CD—labeled "Final_RAPP_Workbook.pdf".

3. Public Participation

Four open houses were held in association with the CCP. They were held the week of December 5th, with one night in Kearney, York, Clay Center, and Holdrege. Approximately 450 letters were sent to individuals and organizations. Those on the mailing list included adjacent landowners and current cooperators. News releases were sent to about 25 newspapers, radio, and television stations.

Turnout for the public meetings was about 17 people at each location. The public meeting at Kearney had only four people show up. A snowstorm was the primary cause for its low turnout. A workbook was provided to those in attendance to write down their concerns and issues. The same workbook was also posted on the station's website. The number of workbooks returned was low. The two main issues presented by the public were the need for more pumping in the fall and we are not doing enough to create pheasant habitat. Suggestions for pheasant habitat included disking native plantings to interseed non-native forbs, planting food plots, and managing the wetlands for pheasants, since they are dry anyway.

Bernardo Garza from the Planning Division in the Regional Office is assisting us in the CCP.

4. Compliance with Environmental & Cultural Resource Mandates

A list of safety deficiencies identified by our Regional Office in 2004 was corrected, with the exception of one. Jim Behrman and Terry Black identified that we need a cold storage shed to house our heavy equipment. Currently all of our heavy equipment and tractors is stored outside. This safety issue and the air quality problems in the office are two safety issues that don't seem to get much attention from the Regional Office for correcting. But, a barrel of oil sitting without containment under it has to be corrected immediately! It gives the staff a sense of what the priorities really are.

5. Research and Investigations

Several studies were conducted in coordination with this station. They are identified below.

Song bird nest survival in Rainwater Basin Wetlands; Max Post Van der Burg, Christina Kocer, Larkin Powell, University of Nebraska-Lincoln.

The study involved examining the main factors affecting daily nest survival of red-winged blackbirds. The results showed that the main factors affecting survival were precipitation and mean high daily temperatures. As mean daily precipitation increased and as mean high temperature increased, survival decreased. The impact of these two factors might reflect the increase in prey as the nesting season progressed. Fledgling survival in nests was higher than egg survival. The research was completed but the final report has not been finished.

Pintail use during spring migration; Bobby Cox, Northern Prairie Research Center.

This study was completed. It monitored the movement and use days of pintail hens migrating from the southern Playa Lakes and the Gulf Coast region while they were in the District. Unfortunately, the years of the study were years with little water in the Region. Very few radio-collared birds used the area. Their average stay was short, averaging only six days. They foraged very close to the wetlands they roosted on. Small wetlands received a disproportionately high use. No females died during their stay. An interesting side note of the study is that the birds tagged in the Gulf Coast area were only found in the eastern portion of the District, primarily Fillmore County. The hens tagged in the Playa Lakes were only found in the counties from Clay County west.

The influence of landscape on invasive plants in the Rainwater Basin Region of Nebraska; April Estep, Craig Davis, Joe Bidwell, and Karen Hickman, Oklahoma State Univeristy.

This study is in its first year. The objectives are to: 1) Determine the spatial distribution of reed canarygrass, river bulrush, and broadleaf cattail, 2) Evaluate landscape characteristics of both invasive-dominated wetlands and wetlands with relatively low densities of invasives, and 3) Determine life history attributes of river bulrush and examine the effects of various abiotic and biotic factors on germination and growth rate.

Buff-breasted sandpiper migration and stopover in the Rainwater Basin, Nebraska; Joel Jorgensen, NGPC, John McCarty and LaReesa Wolfenbarger, University of Nebraska-Omaha

Their inventory has found an exceedingly high use of the eastern District, primarily York and Seward counties, by buff-breasted sandpipers during spring migration. The birds are using almost totally cropped areas with little use of wetlands. They center around farmed, unvegetated wetlands. Their preference is open soybean stubble. A conservative population estimate within a two-county area was reported to be about 1.5 times the existing estimate for the world population. Someone will have to re-do their math.

Amphibians in wetlands; Aaron Lotz and Craig Allen, University of Nebraska-Lincoln.

Their study focused on the error rates associated with identifying frogs by their calls. In doing their study, they documented the occurrence and distribution of frogs within the District.

Invertebrate response to wetland management in the Rainwater Basin, Craig Davis, Oklahoma State University.

The study is in its first year so no hard conclusions have been made. Some key observations that have been made include units grazed had the highest number of taxa (62) of any areas. Eleven taxa were found in disked areas and 42 in burned areas. Idle areas were slightly less than grazed areas. Benthic samples showed 1000 inverts/square meter on grazed areas versus on 200 inverts/square meter on idle wetlands. The invertebrate population per square meter was much higher than found in Playa Lakes. Sweep net samples showed 200 inverts per sweep on grazed and only 50 per sweep on idle units. Damsel flies were almost exclusively found in grazed units.

A Vegetation Mapping/Monitoring Project on the Rainwater Basin Wetland Complex, South Central Nebraska, Andrew A. Bishop, Jeff Drahota, USFWS and Rich Walters, NGPC.

The complicated land-use history of the landscape presented a unique challenge to mapping vegetation at the plant association level of the National Vegetation Classification System (NVCS). To meet this challenge, field data was collected and remote sensing techniques were used. Association level vegetation communities were identified and defined by Terrestrial systems of Nebraska V.111—developed by the Nebraska Game and Parks Commission. To classify the wetland vegetation, field crews visually assessed every public area through field visits. Field crews traversed the respective boundaries of the dominant vegetation communities digitally documenting them using GPS enabled GIS equipment. Monitoring these vegetation communities is an ongoing process that is being completed utilizing a belt-transect method developed by the Service and modified specifically for plant communities occurring in our area. Upland areas were mapped into 1,192 polygons covering 14,922 acres. Wetland vegetations were mapped into 1,615 polygons covering 15,504 acres of state and Federal areas. The largest total community acres mapped were moist soil plant communities (7431.1 acres) and the largest frequency of communities were invasive cool season grasses with 565 polygons. There were 333 field data points used to test the thematic accuracy of the map. Overall thematic map accuracy was 96%. Wetland and associated upland vegetation are composed of many species common to the central mixed-grass prairie, eastern tall-grass prairie, and Great Plains wetlands vegetation communities. Approximately 1,150 acres of native, un-tilled prairie exists in small blocks. An additional 8,400 acres of planted native prairie has been re-established on public properties. Dominant upland species include: big bluestem, Indiangrass, little bluestem, sideoats grama, and switchgrass. Roughly 65% (9,720 acres) of publicly owned wetlands are dominated by native moist-soil and wet-meadow plant communities. Typical moist soil species include smartweed and barnyard grass. Wet-meadow dominants include carex species and sedges (woolly sedge, fox sedge). Exotics or introduced herbaceous vegetation occur on 5,260 acres. Non-native or invasive plant species found on publicly owned areas include cattails, reed canary grass, bulrush.

6. Other

L to R: Mindy Vohland, Brice Krohn, Jeff Drahota, Ronnie Sanchez, Kyle Graham, Steve Karel, Susann Cayouette, Trevor Weston, Rusty Lammert, Jake Jakebowski, Krista Hostetler, Gene Mack, and Bruce Winter. Absent is Brad Krohn.

E. ADMINISTRATION

1. Personnel

Our station has twelve permanent employees and three seasonal positions. Staff is associated with three primary programs of the Service: refuge management, fire, and private lands assistance. Ronnie Sanchez entered on duty in June to fill the deputy manager position vacated by Tom Koerner. Rusty Lammert, long-time maintenance person got married in late summer and took a job with the Treasury Department in Kansas City. That vacancy was re-advertised in December. A selection was forwarded to the Regional Office. Brice Krohn accepted a position of Supervisory Range Technician at the end of the year. That position will be here at this station and the position he vacated will be moved to Quivera NWR. Leonard “Jake” Jakubowski started his first year as a Range Tech. Krista Hostetler took a permanent position and transferred in September to Seviletta

NWR, New Mexico. She is working in their fire program. Andy Bishop's position was transferred from our station to the HAPET office.

The only expansion of the refuge family was Ronnie's family, including Tamara and their two sons and newborn daughter. We are planning for the number of "refuge" children to increase again in 2006.

Permanent full-time positions:

Susann Cayouette	Administrative Assistant
Jeff Drahota	Wildlife Biologist
Kyle Graham	Wildlife Biologist (Private Lands)
Steve Karel	Refuge Operations Specialist
Brad Krohn	Biological Technician
Brice Krohn	Supervisory Range Technician
Mindy Meade-Vohland	Wildlife Biologist (Private Lands)
Gene Mack	Project Leader
Mark Pfost	Biological Technician
Ronnie Sanchez	Deputy Project Leader
Bruce Winter	Prescribe Fire Specialist

Seasonal positions include:

Krista Hostetler	Range Technician
Leonard Jakebowski	Range Technician
Trevor Weston	Range Technician

2. Youth Programs

No youth program exists at the station.

3. Other Manpower Programs

No manpower program exists at the station.

4. Volunteer Program

Our volunteer program took a significant drop in 2005. Tom Koerner was previously responsible for putting together our volunteer program. Without him, this was one area that had to receive less attention.

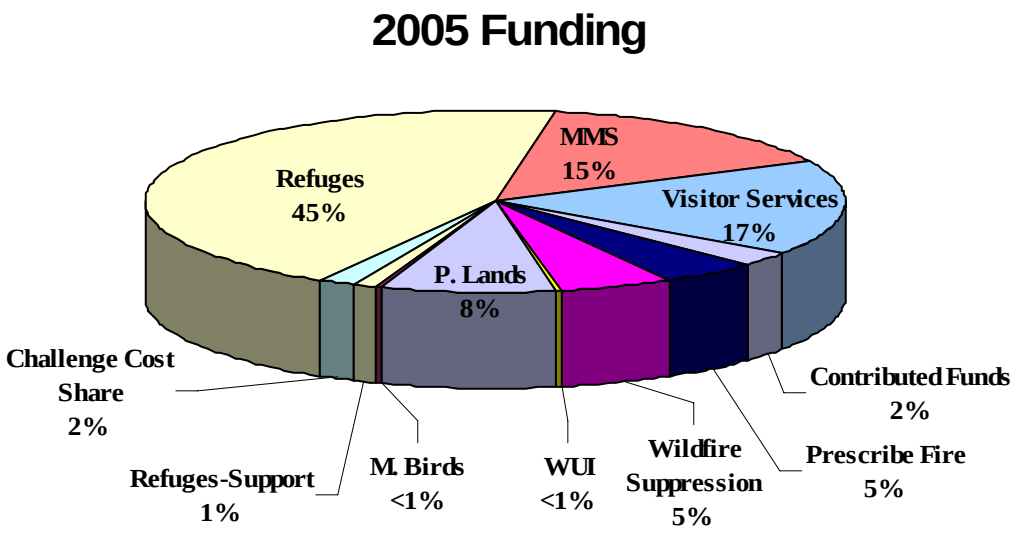
Attempts were made to bring on volunteers to work during our spring migration and burning season. Three volunteers were selected; each declined the position just prior to reporting for work. Anthony Howsden was a summer intern who helped us tremendously with vegetation mapping and prescribed burning. Other activities he was involved in included neck collar reading, seed harvest, and biological surveys.

The following volunteers made significant contributions during 2005.

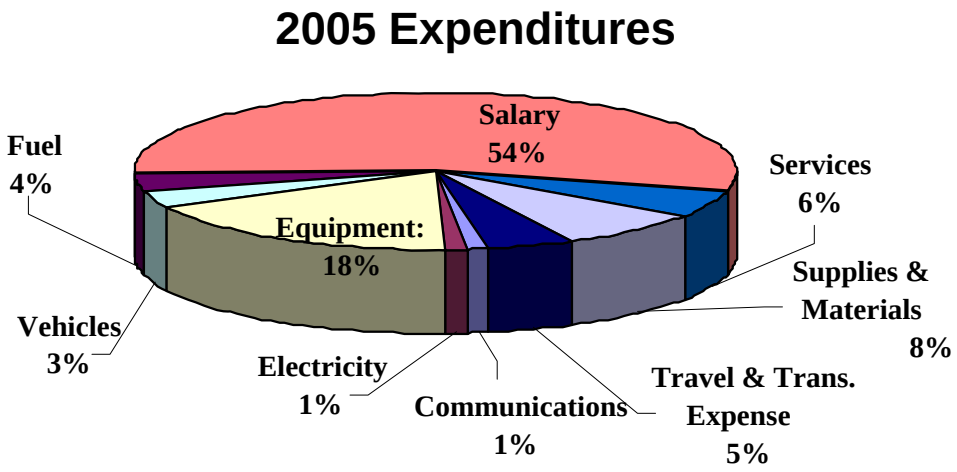
Volunteer	Home Town	Projects
Harold Cayouette	Kearney, NE	Install and update computers
Anthony Howsden	Kearney, NE	Burning, veg. mapping

5. Funding

Total funding for FY 2005 was approximately $1.8 million. Almost half of that was from 1261 and 1262 funding. MMS funding increased from 6 percent last year to 15 percent this year. Our biggest increase in budget is associated with funding to improve visitor services at Funk WPA. It represents 17 percent of our budget. Although we do not have a Friends group, our contributed funds for work we do on WPAs was 2.0 percent of our budget. Prescribe fire and suppression represent about equal portions of the budget.



Salary accounted for 54 percent of station expenditures. The second highest expense was the purchase of a front-end skid loader. The travel costs included Ronnie's move.



6. Safety

Steve Karel escaped what could have been a very tragic accident. He was traveling north of Holdrege on a narrow, snow-covered blacktop road with the well truck when a semi trailer met him. The semi threw up snow—blocking visibility. A second semi was following closely behind the first but was over the center of the road. The second semi clipped the mirror of the well truck and destroyed the door and sent glass flying into Steve's face. The driver did not stop. Steve called the authorities and they stopped the driver near Holdrege. He claimed he did not stop because he never noticed the collision.

Safety meetings were held throughout the year. They included: cold weather survival, safe operation of a Hotsy spray washer, proper mixing and application of herbicides, winter survival, and winch safety.

7. Technical Assistance

Technical assistance is a large part of the work produced by this station. Technical assistance ranges from providing fire and land management recommendations to obtaining grant funding, and assisting other refuges to develop a biological/GIS program at their station.

Two FTEs are dedicated to working with private landowners to restore wetlands and upland habitat. Mindy began her sixth year working with landowners within the Rainwater Basin. Projects included wetland restorations and temporary wetland projects know as seasonal habitat improvement projects. One of the primary focuses of her job has been obtaining conservation easements through the Wetland Reserve Program. Bioengineering teams, made up of various agencies' staff, review projects and develop restoration plans for the wetlands. All of her accomplishments and contacts are entered into the Rainwater Basin Information System (a database used by the various partners of the Rainwater Basin Joint Venture).

Kyle focused on projects in the Sandhills. Projects completed included planned grazing systems on entire ranches and along riparian areas. Much of his work is in conjunction with work being done by the Sandhills Task Force. During 2005, seventeen conservation projects were worked on covering nearly 45,000 acres of grassland, wetlands and riparian habitat were enhanced. Total expenditure, by the Task Force, for projects was approximately $190,000. The Partners for Fish and Wildlife's share was $40,300.

Other technical assistance included giving presentations to various land management agencies and personnel on wetland management practices, conservation funding sources, and conservation programs.

8. Partnerships

Rainwater Basin WMD survives on partnerships. We are extensively involved in the Partners for Fish and Wildlife Program and the Rainwater Basin Joint Venture. Mindy focuses all her time on private lands projects and is a working member of the JV's Private Lands Workgroup. Jeff chairs that committee. Ronnie serves on the Land Acquisition Workgroup. Gene serves on the Technical Committee and the Public Lands Workgroup. Each of these responsibilities redirects staff time away from management work—but the benefit outweighs the added responsibility. Each year our District benefits from the funding for research and/or management we receive from the Joint Venture.

Gene continues to serve as the Sandhills Coordinator and the Secretary/Treasurer for the Sandhills Task Force. After serving in this capacity since 1991, the Washington Office finally approved his request to serve as a board member. I know for wine, it takes time to produce a good product; I do not know if it is the same with government.

9. Formal Training

Training	Individual
ATV certification	Anthony Howsden
Crawler loader certification	Brad Krohn
S-270 Basic Air Operations	Brad Krohn
Crawler loader certification	Brice Krohn
S-270 Basic Air Operations	Brice Krohn
S-271 Helicopter Crewmember	Brice Krohn
S-234 Ignition Operations	Brice Krohn
SAMMS	Gene Mack
CDL license	Krista Hostetler
Earth mover certification	Krista Hostetler
Large HP tractor certification	Krista Hostetler
S-290 Intermediate Fire Behavior	Krista Hostetler
S-234 Ignition Operations	Krista Hostetler
S-211 Portable Pumps and Water Use	Krista Hostetler
S-261 Interagency Business	Krista Hostetler
S-290 Intermediate Fire Behavior	Kyle Graham
Earth mover certification	Leonard Jakebowski
Large HP tractor certification	Leonard Jakebowski
S-234 Ignition Operations	Leonard Jakebowski
Wetland Plant Identification	Mindy Meade-Vohland
Maintenance workshop	Rusty Lammert
Crawler loader certification	Steve Karel
SAMMS	Steve Karel
Maintenance workshop	Steve Karel
CDL license (tanker)	Trevor Weston
Earth mover certification	Trevor Weston
Large HP tractor certification	Trevor Weston
S-234 Ignition Operations	Trevor Weston

10. Other

Members of our staff have spent considerable time and effort in finding outside funding to accomplish or enable others to accomplish the goals of the station and the Service. This effort allows us to expand the capability of our office throughout the landscape.

A grant application was written Gene on behalf of the Sandhills Task Force to Nebraska Environmental Trust for $93,000 for private lands works in the Sandhills. The money was awarded.

F. HABITAT MANAGEMENT

1. General

Two of the primary goals for our land management are to restore wetlands to a more natural hydrology and to convert cropland to high diversity grassland environments. Approximately one-fourth

of the WPAs have some water pumping capabilities. Our ability to pump exceeds the funding and staffing available. Wetland management actions are being done to remove or limit dense stands of cattail, bulrush, and reed canarygrass and promote moist soil plants. Grazing and burning are done to reach those goals. We have observed that the lack of disturbance in wetlands has caused a thick build up (4-12 inches) of organic matter, which absorbs quite a bit of runoff before any surface water is available for waterfowl. Wetlands that have been heavily grazed have seen drastic declines in organic buildups. The decrease in organic matter and vegetation has made more habitat available with less pumping. We have also witnessed better water holding ability in wetlands that have had their soil compacted by livestock. As expected, vegetation diversity and amount of bird use has increased on managed wetlands.

Four aerial habitat surveys were conducted, two in the spring, one in June and one in October.

Spatial data on prescribed burning, private-lands projects, weed control and seeding are being recorded to help document vegetative changes and bird response to management actions. In 2004, our station began inputting this information into “Refuge Land” GIS.

Forty-five WPAs received some type of land management action other than rest. The table below summarizes what action occurred on each area.

WPA	AUM's Harvested	Acres Hayed	Acres Cropped	Acres Burned
Atlanta	184	21.9		
Bluestem	57			
Brauning	71			165
Clark, Gleason, and Prairie Dog		28.2		
Cottonwood	560			
County Line	224			
Eckhardt		10.5		60
Freeman Lakes	47	3.0		198
Funk	303	7.0	318.0	1054
Gleason				332
Hannon	75	35.0		390
Hansen	98			
Harms				60
Harvard	897	20.0		
Heron	328			85
Hultine	268	8.0		
Jensen	244			224
Johnson			143.0	166
Jones	77			
Kenesaw	42			75
Krause		3.0		
Lange			1.0	
Lindau	160			155
Macon Lakes		22.0	12.0	
Mallard Haven	298	0.0	103.0	597
Massie	300			371
McMurtrey	1047	12.0		1
Moger		7.5		
Nelson		5.0		
Peterson	145		10.0	359

WPA	AUM's Harvested	Acres Hayed	Acres Cropped	Acres Burned
Prairie Dog	683			
Quadhamer	157	23.0		160
Real	124			119
Rolland	69			
Smith		9.4		400
Springer		11.0		158
Tamora	201			70
Theesen	105	1.7		
Troester		8.0		
Verona		41.0		
Waco	103			
Weseman	113			
Wilkins	207	8.0		10
Wyoming Property	75			
Youngson	158			
Totals	**7,418**	**285.2**	**587.0**	**5,209**

2. Wetlands

About 50 percent of the lands we manage are wetlands. Both the wetlands and the uplands are part of the grassland ecosystem, so management between wetlands and uplands do not vary much. The same management techniques are applied to both. They just vary in application frequency and intensity. This is discussed in sections on grazing, haying, fire management, and pest control.

Our station continues to do comprehensive wetland vegetation-mapping.

Habitat availability in terms of ponded water varied greatly across the District, with the west continuing to be very dry and the farther east areas getting just enough rain to be a little below average. Funk was completely dry this summer allowing us to do dirtwork in the wetland basin. A strip of wetlands, including Heron, Waco, Kenesaw, and Freeman Lakes were filled by one rain event. Morphy's water was over the road.

Torrential rain carried cornstalk debris down the waterway. Helps explain siltation in wetlands.

It is recognized that restoration of wetlands requires a better understanding of the influence of landuse in the rest of the watershed. Mindy has been doing an outstanding job of addressing this issue. Extensive hydrology analysis was completed for Elley, Peterson, Bluestem, Jones, Atlanta, Linder, Gleason, Prairie Dog, Lindau, Clark, Killdeer, Frerichs, Funk, Johnson and Kenesaw WPAs. The analysis includes documenting and mapping natural hydrology, the influences of road ditches and cropland leveling, pits diverting water and conversion from gravity to pivot irrigation. This data along with topographic information and Tri-County canal irrigation information allowed Mindy to better identify modern day watershed boundaries for each WPA.

Waco WPA/Spikerush WMA

a. Pumping

This year two additional submersible pumps were installed; one at Harvard and the other at Cottonwood. We are seeing quite a bit of benefit associated with submersible wells. The main benefits include no maintenance; they do not have to be checked on a daily basis; and vandalism is nearly non-existent. Because of these benefits, we can turn those pumps on earlier than the rest and allow them to run pretty much unmonitored. We have recently had sportsmen discuss the possibility of raising funds to run wells in the fall. The submersibles would fit perfect since all costs would be for energy with no daily maintenance costs.


New submersible on Harvard WPA

Spring and fall pumping is generally done on various WPAs within the District. Which ones and for how long is dependent on funds available, vegetation and soil moisture conditions, size and shape of basin, short-term management plans, and historic bird use.

NGPC has constructed wells on some of their own properties and have diverted their traditional funding to pumping on their own lands. This fall we made the decision not to pump wetlands. Several factors came into play in making that decision. Hurricanes Katrina and Rita caused fuel prices to jump dramatically. Within a couple of days gas jumped over 50 cents a gallon and increased by over a dollar from the previous fall fuel prices. Diesel at gas stations was going for as much as $3.50 per gallon. Other factors included the flat budget we receive each year for pumping and the extent of the drought.

We did run two submersible wells during the fall. They were at Johnson and Harvard. Drought conditions in the past years dried up Johnson—causing cottonwood saplings to emerge. We shredded the seedlings during the summer and then turned on the submersible pump to flood the area. The southeast well on Harvard was replaced this fall with a submersible pump. We turned that pump on to test it and provide some fall water.

The table below shows costs and volume pumped in the spring of 2005.

Well	Type	Date On	Date Off	Actual Hours operated	Acre-ft.	Acre-ft/day	Cost/ Acre-ft.
Jones	Diesel	02/09/05	02/24/05	215	81.76	9.13	$25.00
Massie_south	Diesel	02/10/05	02/17/05	168	70.20	10.03	$17.89
Prairie Dog_west	Diesel	02/14/05	02/27/05	252	47.72	4.55	$24.89
Funk_Peterson	Diesel	02/10/05	03/04/05	490	205.40	10.06	$17.76
Harvard S.W.	Electric	02/10/05	02/27/05	329	114.59	8.36	$8.33
McMurtrey_east	Electric	02/10/05	02/18/05	195	61.29	7.54	$8.65
Harvard N.E.	Electric	02/11/05	02/27/05	288	53.42	4.45	$8.01
Clark	Diesel	02/14/05	03/04/05	436	59.01	3.25	$41.43
Harvard S.E.	Electric	02/10/05	02/27/05	329	21.70	1.58	$19.26
McMurtrey_west	Electric	02/10/05	02/18/05	196	54.09	6.62	$9.24
Funk_Mallard	Diesel	02/10/05	02/23/05	308	81.05	6.32	$12.50
Funk_Pintail/Teal	Diesel	02/10/05	02/27/05	387	158.47	9.83	$6.13

Well	Type	Date On	Date Off	Actual Hours operated	Acre-ft.	Acre-ft/day	Cost/ Acre-ft.
Eckhardt	Electric	02/10/05	02/27/05	132	13.95	2.54	$23.22
Springer	Electric	02/11/05	02/18/05	170	28.57	4.03	$8.68
Johnson	Electric	02/09/05	03/08/05	648	115.97	4.30	$9.05

b. Water Quality

Feedlot runoff continues to be a problem. Hopefully it will be addressed in the CCP. NDEQ did take legal action against the contamination flowing into Cottonwood WPA (State of Nebraska v. Dahlgren Cattle Co., Inc.; Case No. CI 04-176 (District Court of Phelps County Nebraska). We received a Freedom of Information request (through the Regional Office Solicitor) to provided the defendant's attorney with any information we had about water quality and grazing that has occurred on our property within the past five years. We do not know the status or outcome of that legal action. A request was also received from the Attorney General asking Jeff to testify at the upcoming trial.

Grand Island Ecological Services office Contaminant Specialists' completed research evaluating effluent from a swine operation next to McMurtrey. Findings indicated oxytetracycline, 17-B estradiol, testosterone, phosphorus, ammonia, and total nitrogen exceeded minimum standards acceptable to waterfowl. Salinity was 2-3 times greater, and trace elements from swine waste will likely continue to increase in post-treatment wetlands.

Water samples were taken on fourteen wells used to pump WPAs. The decision to take samples was stimulated by the community of Wilcox asking Nebraska Game and Parks Commission for permission to drill a well on their public property. Wilcox had done test wells at various locations and the water quality was too poor for a domestic well. Tests under Sacramento-Wilcox WMA showed suitable water for the town. The Joint Venture thought it would be a good idea to take samples on various wells so we could use the baseline information if a future need occurred. The samples were taken of wells that were run during spring pumping. The results are shown on the following pages.

2005 Well Water Analysis

Well	Date of Sample	Well Reg. Number	pH	Sodium Adsorption Ratio (SAR)	Adjusted SAR	Total Dissolved Solids (TDS) est	Electrical Conductivity mmho/cm	Cations/ Anions me/L	Sodium, Na	
									ppm	lbs/Ac9"
Clark	2/17/2005	G-024290	7.5	0.7	1.1	606.0	1.01	11.1/10.6	36	72
Eckhardt	2/17/2005	G-042015	7.5	0.8	1.0	330.0	0.55	5.6/5.4	26	52
Funk Mallard Unit	2/17/2005	G-044746	7.3	1.1	1.8	798.0	1.33	14.9/14.6	63	126
Funk Peterson	2/17/2005	G-067429	7.4	1.2	1.9	894.0	1.49	17.1/17.0	72	144
Funk Teal	2/17/2005	G-112031	7.4	1.4	2.2	858.0	1.43	14.9/15.5	76	152
Harvard	2/17/2005	G-004252	7.1	0.7	0.9	384.0	0.64	6.8/6.4	26	52
Harvard SE	2/17/2005	G-018515	7.1	0.8	1.2	390.0	0.65	6.9/6.7	31	62
Harvard SW	2/17/2005	G-029357	7.2	0.6	0.8	408.0	0.68	7.0/6.8	24	48
Johnson WPA	2/18/2005	G-053760	7.3	1.4	2.2	1038.0	1.73	19.3/20.3	88	176
Massie Diesel	2/17/2005	G-005848	7.0	0.8	1.1	348.0	0.58	5.9/5.9	29	58
MC Murtrey East	2/17/2005	G-012804	7.2	0.8	1.2	426.0	0.71	7.3/7.1	32	64
MC Murtrey West	2/17/2005	G-032341	7.2	0.9	1.3	360.0	0.60	6.2/7.0	33	66
Prairie Dog West	2/17/2005	G-025880	7.5	0.6	0.9	504.0	0.84	9.0/8.7	25	50
Springer SE Electric	2/9/2005	G-062021	7.5	0.8	1.1	402.0	0.67	6.4/6.6	29	58

Well	Potassium, K		Calcium, Ca		Magnesium, Mg		Total Hardness, CaCO3		Nitrate, NO3-N	
	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"
Clark	17	34	152	304	18	36	455	910	9.3	18.6
Eckhardt	7	14	70	140	9	18	213	426	0.7	1.4
Funk Mallard Unit	19	38	193	386	25	50	587	1174	10.7	21.4
Funk Peterson	20	40	220	440	28	56	667	1334	12.7	25.4
Funk Teal	19	38	183	366	23	46	553	1106	11.7	23.4
Harvard	11	22	87	174	12	24	267	536	2.4	4.8
Harvard SE	17	34	84	168	11	22	256	512	1.7	3.4
Harvard SW	9	18	95	190	13	26	292	584	6.1	12.2
Johnson WPA	23	46	249	498	30	60	748	1496	19.7	39.4
Massie Diesel	10	20	72	144	10	20	22	444	6.1	12.2
MC Murtrey East	7	14	92	184	12	24	280	560	3.2	6.4
MC Murtrey West	7	14	75	150	10	20	229	458	3.3	6.6
Prairie Dog West	14	28	127	254	15	30	380	760	9.5	19.0
Springer SE Electric	10	20	77	154	13	26	247	494	6.5	13.0

Well	Sulfate, SO4-S		Chloride, Cl		Carbonate, CO3		Bicarbonate, HCO3		Total Alkalinity CaCO3		Boron, B	
	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"	ppm	lbs/Ac9"
Clark	50	100	19	38	< 1	< 2	382	764	313	626	0.05	0.10
Eckhardt	17	34	16	32	< 1	< 2	233	466	191	382	0.03	0.06
Funk Mallard Unit	122	244	37	74	< 1	< 2	314	628	258	516	0.09	0.18
Funk Peterson	153	3.6	41	82	< 1	< 2	327	654	268	536	0.09	0.18
Funk Teal	120	240	39	78	< 1	< 2	370	740	303	606	0.11	0.22
Harvard	25	50	11	22	< 1	< 2	265	530	217	434	0.03	0.06
Harvard SE	19	38	11	22	< 1	< 2	311	622	255	510	0.04	0.08
Harvard SW	23	46	15	30	< 1	< 2	273	546	224	448	0.03	0.06
Johnson WPA	182	364	53	106	< 1	< 2	369	738	302	604	0.15	0.30
Massie Diesel	12	24	15	30	< 1	< 2	264	528	216	432	0.02	0.04
MC Murtrey East	21	42	21	42	< 1	< 2	301	602	246	492	0.03	0.06
MC Murtrey West	11	22	26	52	< 1	< 2	320	640	263	526	0.03	0.06
Prairie Dog West	35	70	17	34	< 1	< 2	326	652	267	534	0.05	0.10
Springer SE Electric	17	34	12	24	< 1	< 2	289	578	237	474	0.02	0.04

c. Atlanta WPA

In 2005, three pits were filled on privately owned property in an effort to increase natural run-off into the basin. Approximately 36 percent of the watershed flows through these three pits before reaching Atlanta WPA. Though their calculated storage capacity appears to be low (Beynon pit 1.80 acre/ft, Evans pit 1.86 acre/ft, and Nonamaker pit 2.3 acre/ft), the true influence of the Beynon and Nonamaker pits on surrounding hydrology is significantly under-estimated. Porosity was so high that water washed into these pits almost immediately percolated in the groundwater table.

Unfortunately, losses of hydrology due to ground water percolation are difficult to calculate. Watershed information for the Nonamaker pit suggests that as much as 146 acres (unconfirmed estimate) of the basin may ultimately be improved by completing this single pit fill.

d. Mallard Haven WPA

Ducks Unlimited purchased the west portion of the Wiese wetland. Their plans are to restore the wetland and turn ownership over to the Service. Silt was taken from the north edge the wetland on the WPA and DU sides. This material was placed on the recently purchased cropland on the west side of the DU property. The fence between the two properties will be removed. Our station will provide seed and reseed the upland.

e. Cottonwood WPA

After years of confined animal feelot runoff dumping into Cottonwood, action was taken in the 2003-2005. The Attorney General filed action against the feedlot (State of Nebraska v. Dahlgren Cattle Co., Inc.; Case No. CI 04-176 (District Court of Phelps County Nebraska). The defendants request ed our office provide all the information we have about grazing within the last five years. I think they were going to try to convince the court that a thick layer of manure on our wetland vegetation as from our grazing livestock in the wetland. Unfortunate for them, the greatest concentration of animal waste exists prior to reaching our property.

The pump engine on the well was replaced with a submersible pump. The utility company will be building a power line from the road right of way to the well sometime this winter. It is our hopes to have our third submersible pump running by spring.

f. Funk WPA

Funk has experienced major work during the year. We received funding for the construction of an interpretive kiosk to replace the one destroyed by vandals years earlier. We also received money for the construction of interpretive trails and panels throughout the 2000-acre WPA. The existing dikes are being widened and built up to allow for a rock-covered interpretive trail. Old water control structures are also being removed. Only two are being replaced. Dirt for the dikes is coming from the wetland basin. Prior to the land being purchased by the Service, a portion of the property was filled with dirt for farming. Those high spots have been continual problems for thistle and other invasive species. The project is expected to take two years to complete. The proposal is located in file “Funk_Interpretive_ Project.pdf”.

Grazing cattail at Bittern Unit

Cattle grazing were done on the wetland again this year. The cooperator was given a permit to

graze the small Bittern Unit. The goal was to graze it as intensively as possible. Cattle remained in the unit until July and had grazed the upland and wetland down to dirt. The upland was mostly invasive species, including thistle, while the wetland was a solid stand of cattail. The cattle grazed everything (including Canada thistle) except for tall thistle. Before the cattle were removed there were two or three inches of irrigation return flow in the basin. Once the cattle were removed, the cattail grew at a rapid rate. The plants, however, did not flower and had a very weak stem, which laid down in high winds.

g. Clark WPA

A new well is planned for 2006. We have been notified that MMS funding is being made available. We are currently looking into installing a submersible pump at that new facility. We obtained permission from Tri-Basin NRD to move the well location to the west so it would be close to the power line.

h. Krause WPA

Ducks Unlimited has begun elevation surveys and engineering to restore the hydrology on this WPA. It currently has several small pits scattered throughout the wetland that need to be filled. Other work includes removal of Reeds canarygrass and trees. Last year, a new electric engine was installed on the existing well.

i. Gleason WPA

A hydrology assessment identified ten pits within the Gleason watershed that are intercepting natural run-off from the basin. Open dialog with the pit owners helped to identify three irrigation re-use pits (i.e. ME LLC, L&V Stadler, Christensen) that could be filled. Further discussions with one landowner (M&C Stadler) lead to the abandonment of a fourth pit and the subsequent conversion of the crop field to a more efficient pivot irrigation system. Of the remaining six pits in the watershed, one pit is expected to be filled by the landowner at the request of the U.S. Department of Environmental Quality in 2006-2007. The remaining five pits are presently being used for gravity irrigation.

The M&C Stadler pit (20.5 acre/ft) and the ME LLC. pit (2.1 acre/ft), located immediately adjacent to the WPA, were filled using silt that had washed into the wetland over several decades. Removing unwanted silt from 30 acres of the wetland encouraged the growth of plants that are valuable as food and cover for wildlife. At the same time, this silt removal increased the wetlands ability to store water which provided flood protection for neighbors.

The Christensen pit (2.0 acre/ft) was filled using material from berms surrounding the pit and by skimming dirt from adjacent crop ground.

Summer rains pushed construction on the L&V Stadler pit (5.6 acre/ft) into 2006. When conditions allow, sediment to fill the pit will come from the southwest unit of Gleason in an area presently dominated by Reed canarygrass.

The combined pit filling improved hydrology throughout 42 percent of the watershed.

j. Peterson WPA

A small abandoned irrigation re-use pit was closed to improve hydrology within the Peterson basin. The approximate storage capacity of the pit was 1.6 acre/feet of water. Additionally, fill material for the pit came from an adjacent roadside ditch that had silted closed—thus preventing natural runoff from reaching the wetland.

3. Forests

As a grassland ecosystem, our station manages for the elimination of trees. A considerable amount of time continues to be spent controlling invasive trees. Methods of control include prescribe fire, shredding, herbicide application, and tree cutting. Many of the areas cleared of trees in the last five seasons continue to have trees resprouting; particularly, Macon Lakes, Johnson, Jensen, Rauscher, Kenesaw, Hannon, Victor Lakes, Freeman Lakes, Quadhamer, Clark, Gleason, and Jones WPAs. . Green ash, Chinese elm, honey locust, and eastern cottonwood are the species most likely to resprout. This is likely as a result of established roots remaining alive. Either some trees were not treated with herbicide or not enough herbicide was trans-located into the roots to kill the roots.

Our new tree control strategy is to focus on controlling seedlings on WPAs that had trees recently removed rather than remove additional mature trees on other WPAs. Each time we remove the mature trees we are seeing an explosion of young seedlings in the same area. Our plans are to get a WPA free of trees (to the extent possible) before taking on more areas. For this reason, Macon Lakes will probably be let go until WPAs with less tree problems are taken care of.

This fall, our station purchased a Marshall tree saw that attaches to the Bobcat skid-steer loader. The tree saw has a factory installed sprayer to spray the stump. We have plans to put it to use during the winter months. Our first project will be County Line.

4. Cropland

Croplands under District management are only temporary. Each year, a portion of cropland is reseeded to native grasses and plants. Our goal is to have no refuge lands cropped. New cropland is farmed using Roundup-ready soybeans. This prepares the ground by making the surface relatively smooth and weed-free. Local native seed, collected from refuge lands, are mixed and planted. Grassland areas on a few WPAs, primarily Funk, have been returned to cropland (Roundup-Ready soybeans) in an effort to remove invasive plants (primarily Canada and musk thistle). Each of the farmed areas had a poor stand of native grasses and was dominated by brome and Kentucky bluegrass.

In 2005, only three WPAs had cropland on them. Funk had 315 acres; Johnson had 143 acres; and Mallard Haven had 103 acres.

a. Funk WPA

Several fields are currently farmed with each field scheduled for reseeding in various years. In 2006, 60 to 100 acres will be reseeded using a high diversity seed mixture.

b. Johnson WPA

Large stands of Canada thistle caused us to break out 143 acres of poor quality cool season grass mix. The area will be farmed for a about three years before it is reseeded to native species.

c. Mallard Haven

A 103-acre field, dominated by intermediate wheatgrass on the south side of the WPA, was farmed and will continue to be farmed for about four years. It will then be reseeded using a high diversity seeding.

5. Grasslands

Rainwater Basin is located in the central portion of the Great Plains that was historically part of the tall-grass and mid-grass prairie. Trees were pretty much limited to river islands and draws that escaped

wildfire. Our management on refuge lands is to restore, to the level possible, these same ecological characteristics.

Grazing, rest, and prescribed fire are used to manage grasslands. A limited amount of haying is used annually. Grassland restoration is aimed at returning cropland and low diversity grasslands into high-diversity native plant communities. Seeding is primarily done on bare cropland during winter months. Interseeding on lands containing the traditional five-species plantings, is done following burning or near the end of grazing. Extensive information about grassland management can be found in the document entitled
"2005_Seed_Management_Report.doc"


Seed mixing crew

a. Harvesting High Diversity Seed

Harvest of a large volume of seed is done with a combine containing a stripper-header. Most of the forbes and sedges are harvested by hand or by using a small seed stripper pulled by an ATV. Our goal is to harvest seed for our need, plus a reasonable amount to help our partners meet their needs within the District.

The table below shows the primary harvest sites and the major species component.

Site location	**Species** (major components, may have additional native species unlisted)	**Total** (lbs)
Alexandria WMA	Canada Milkvetch-used from leftover seed	15
Atlanta WPA	Leadplant, Round-headed Bushclover	30
Cottonwood WPA	Canada Wildrye, Virginia Wildrye,	8,000
Deep Well WMA	Canada Wildrye, Big Bluestem, Indian Grass, Canada Milkvetch, Sunflowers	2000
Eckhardt WPA	Leadplant, Wild Rose, White and Purple Prairie Clover	40
Hannon WPA	Illinois Bundleflower	800
Harms WPA	Big Bluestem, Little Bluestem, Switchgrass, Indian Grass, Wild Rose, misc. forbs	1000
Harvard WPA	Purple Prairie Clover, White Prairie Clover, Compass Plant	300
Hultine WPA	Switch grass, Western Wheatgrass	200
Kirwin NWR	Side Oats Grama, Western Wheatgrass	780
Macon Lake WPA	Black-eyed Susan	20
Meadowlark WPA	Indian Grass, Big Bluestem, Switch Grass, some misc. forbs	100
Nelson WPA	Big Bluestem, Little Bluestem, Switchgrass,Indian Grass, misc. forbs	1000
Prairie Dog WPA	Little Bluestem	250

Site location	**Species** (major components, may have additional native species unlisted)	**Total** (lbs)
Smith WPA	Porcupine Grass	10
Smith WPA	Big Bluestem, Little Bluestem, Switchgrass,Indian Grass, Leadplant, Wild Rose, Wild Licorice, lots of asters and a 70 plus species misc. forb mix	3000
Springer WPA	Canada Wildrye, Big Bluestem,Blue sage, Rosinweed, Stiff sunflower, Maximillian sunflower, 50 plus species forb mix	3500
TNC	Forb species	100
Troester WPA	Big Bluestem, Little Bluestem, Switchgrass,Indian Grass, misc. forbs	1000
Troester WPA, Nelson WPA	Virginia Wildrye	250
Verona WPA	Porcupine Grass	10
HWY 92 east of ST. Paul, NE	Roundheaded Bushclover, Shell Leaf Penstemon	20
Other Areas	Misc.grasses and forbs	300
Total		22,725

b. Seeding

Seeding is planned for numerous sites on WPAs (See table below). High diversity seed was also distributed to Boyer Chute NWR, Kirwin NWR, Pheasants Forever, Ducks Unlimited, and Nebraska Game and Parks Commission.

UNIT	DATE	ACRES	COMMENTS
Funk Whitetail	12/05-4/06	20 upland	Funk Mix – mainly grasses
Funk WPA Willet Unit	12/05-4/06	40-80 upland 10 wet meadow	Funk Mix - mainly grasses Wet meadow mix seeded around perimeter of wetland
Funk WPA Dikes	1/06-4/06	10 acres	Dike mix.
Peterson WPA	1/06-4/06	40 upland	Interseed High diversity mix before/after prescribe burn
Atlanta WPA NE and main unit	1/06-4/06	20 upland	Interseed High diversity mix on graze areas.
Harvard WPA	1/06-4/06	20 upland	High diversity mix on sprayed alfalfa/brome

UNIT	DATE	ACRES	COMMENTS
Weis Unit/ Mallard Haven	1/06-4/06	100 upland	High diverse mix
Gleason WPA	1/06-4/06	3 upland 10 wet meadow	High diverse mix in upland, wet meadow in bottom.
Hannon WPA	1/06-4/06	60-80 upland	Interseed High diversity mix
Verona WPA	We will not be planting this area.	200 upland	High diversity mix for Ducks Unlimited.
Others	Planned May thru July 05	100	Some disturbed areas, areas sprayed for crown vetch as well as lots of interseeding.

The table below shows the distribution amounts to various partners and refuges.

Recipient	Estimate of bulk lbs of seed @ 30 lbs per/bag	Species
Boyer Chute NWR	40 bags/1,200 lbs	150+ species mix
Nebraska Game & Parks Comm.	50 bags/1.500 lbs	150+ species upland mix
Pheasants Forever	Piles equivalent to at least 50-70 bags. 2000 lbs or so. More odds and ends.	Mixed grass piles, forb pile, misc. bags. 170+ species.
Kirwin NWR	125 bags/3570 lbs 75 bags/2250 lbs	150+ species mix, 100+ species mix
The Nature Conservancy	50 bags/1,500 lbs	150+ species mix
Ducks Unlimited	100 bags Verona Project 50 bags Weis Tract /4500 lbs	150+ species mix
Single bags dispersed	?	Odds and ends, 150+ species mix
TOTAL	**At least 16,520 lbs**	

c. Partnerships

Our office partnered with the Nature Conservancy and NGPC to try to propagate some plant species that are difficult to find seed sources. Small, irrigated plots were tilled on NGPC ground near Grand Island. TNC and our office provided seed and assisted in growing seedlings and planting them at the Grand Island site. NGPC agreed to irrigate the seeding during the summer months. First year growth was very good. Approximately 15 species were planted. Some of the species were pink poppy mallow, leadplant, white prairie clover, purple prairie clover, porcupine grass, compass plant and Virginia mountain mint.

6. Other Habitats

Two of our management areas contain a riverine system. Management on those is for a grassland riparian area similar to pre-settlement conditions. Hannon WPA is located on the north channel of the Platte River and is void of trees. The area is frequently burned to keep it in healthy grassland. The other property is on the main channel of the Platte and has had most of its trees mechanically removed. Lands bordering both sides of the is property remain forested. Drought conditions have made it difficult to obtain a burning permit for this site.

7. Grazing

Next to rest, grazing is our primary management tool. Grazing occurred on portions of 32 WPAs in 2005. Although the number of WPAs grazed increased from 25 in 2004 to 32, the total AUMs harvested dropped from 7,933 to 7,662. Most of the grazing occurred in wetland basins with the uplands being rested or grazed at a lighter rate early in the growing season. We receive frequent calls from recreationists asking why we have livestock on a wildlife area. Our explanation appears to satisfy nearly everyone. We continue to have a couple of prominent individuals in separate communities that are vocally upset with our grazing because they believe we remove wetland vegetation that is much needed for pheasants. The number of positive comments outweighs the negative ones by about 10 to one.

Wetland grazing has been shown to provide desirable plant response under the right conditions. With the right timing and amount of grazing pressure, plants such as reed canary grass, river bulrush, and cattails have been severely injured. The extensive root systems are literally shredded by the cows' hooves as they graze and trail through portions of the wetland. Species such as smart weeds, burreed, barnyard grass, spikerush, and other desirable plants are replacing the problem species. Even if conditions are not favorable for plant regrowth, the basins are open the following spring.

We are noticing that hoof action is increasing soil compaction, allowing for better water retention. Another benefit appears to be the reduction in the amount of silt on top of the clay by incorporating silt into the clay layer. The fine difference in soil elevation cause by hoof prints also allows for germination of a wider variety of moist soil plants.

Forage samples taken in May of 2004 showed impressive crude protein values. Crude protein was almost 28 percent for smartweed, 22 percent for phragmites, and 36.5 percent for curly dock. This was on areas that were burned early in the spring. 2003 forage tests showed cattail to be 14 percent and reed canarygrass to be 15 percent. Unfortunately the date of the 2003 testing was not recorded. We do believe it was done in the later part of May. In 2006, we plan to do forage testing on a larger number of wetland species.

Patch grazing of on Mallard Haven

Grazing responsibilities for 2005 were split between Brad, Steve and Jeff, with Ronnie overseeing the entire program.

Patch grazing was initiated on Mallard Haven. Jeff had a portion of the wetland and upland burned while the remaining grazing unit was left unburned. Casual observations showed a significant increase in grazing pressure on the burned upland portion until the first of July. Grazing then focused mainly on the unburned upland area leaving the burned upland to grow. This treatment worked well to decrease the frequency of switch grass in the burned upland area. The wetland plant community changed very little in 2005; however, most 3-square plants were bitten early and with the drought we expect to see a reduction in 3-square frequency next year.

Massie was grazed for the first time that anyone can recall. It was done in cooperation with the tenant who agreed to put in permanent boundary fence on the property.

8. Haying

Haying within the District is pretty much limited to haying firebreaks along shelterbelts and boundaries of units planned for next spring burns. Writing special use permits for haying became the responsibility of Bruce. In 2005, 23 haying permits were issued. The largest area hayed was 41 acres on Verona. The reason for the haying was to encourage patch grazing on the less desirable forage.

9. Fire Management

We continue to have more areas needing prescribe fire than we have available days to burn. On the Great Plains, high winds and thunderstorms are common during the spring burn season.

The spring started off with the area being abnormally dry, especially in the west basins. Personnel from Kirwin NWR, The Nature Conservancy, and the Bureau of Land Management out of Casper Wyoming were brought in to assist with the prescribed burning. Three Range Technicians were hired. They were Trevor Weston, Krista Hostetler, and Leonard "Jake" Jakubowski. In October, Krista Hostetler took a permanent fire job with the USFWS in New Mexico. The fire crew assisted in burning 33 units for 5075 acres. Four wildfires occurred, totaling 134 acres.

Our fire crew also assisted other fire crews/locations conducting prescribed fires. They were:

The Nature Conservancy, Nebraska
Ozark Scenic River ways National Park, Missouri
Alamosa- Monte Vista NWR, Colorado
Kirwin NWR, Kansas
Quivira NWR, Kansas
Crescent Lake NWR, Nebraska
Homestead National Monument, Nebraska
Fergus Falls WMD, Minnesota
Big Stone NWR, Minnesota
St Croix WMD, Wisconsin

Below is a list of the units burned in 2005.

WPA	Unit	Date	Acres
Brauning	Wildfire	03/28/05	5
Brauning		04/15/05	160
Eckhardt	Marsh	10/25/04	60
Freeman		04/16/05	198
Funk	Bittern	02/04/05	30
Funk	Mallard	03/19/05	332
Funk	NW wildfire	04/04/05	.25
Funk	Pintail	04/04/05	82

Funk	Whitefront	04/04/05	279
Funk	Whitetail	03/05/05	51
Funk	Willet	03/05/05	280
Gleason	North	12/16/04	159
Gleason	South	04/25/05	65
Gleason	SW (WUI)	02/03/05	108
Hannon	West	04/07/05	390
Harms		04/20/05	60
Heron	East	03/31/05	85
Jensen	East	04/07/05	224
Johnson	East	02/04/05	166
Kenesaw	South	04/02/05	75
Lindau	(WUI)	03/16/05	155
Mallard Haven		03/03/05	202
Mallard Haven	Interior	04/01/05	136
Mallard Haven	Upland	04/15/05	79
Mallard Haven	Wetlands	04/24/05	180
Massie	East wetlands	04/23/05	247
Massie	Southeast	04/01/05	124
McMurtrey	Piles	04/21/05	1
Peterson	NW	04/13/05	205
Peterson	SW	04/13/05	154
Quadhamer	South	03/29/05	160
Real	Wildfire	03/28/05	119
Smith	NE	04/14/05	109
Smith	West	04/14/05	291
Springer	South	04/19/05	158
Tamora	North	03/31/05	70
Wilkins	Wildfire	04/15/05	10
Total Prescribed			33 for 5075 Ac
Total Wildfire			4 for 134 Ac

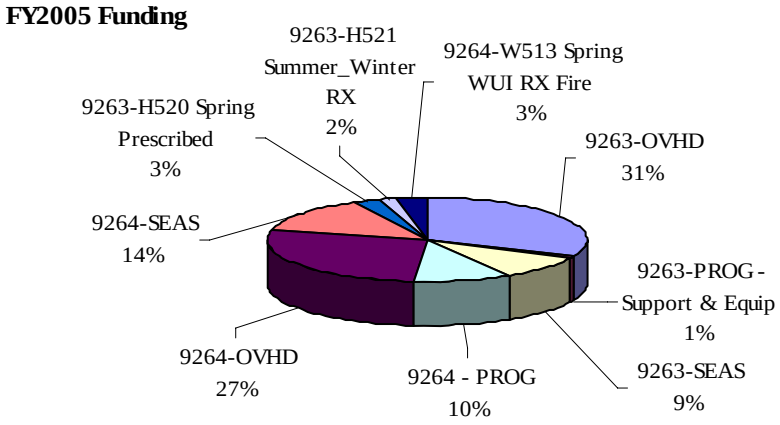
a. Fire Funding

Fire funding at this station continues to decline but we have been able to burn as weather permitted. The main reason we are able to do this is because we are going into a low budget year with relatively new equipment. If the funding continues to drop, it will dramatically affect our burning program. The funding continues to shift more toward wildland-urban interface (WUI) and fire suppression. Unlike refuges, we fail to get funding to construct a storage building for fire equipment. Since we are located in a rented

facility their hands are tied. The result is our fire equipment fills our shop on freezing nights during spring burning.

b. Prioritizing Burning Units

Although we have always tried to prioritize which areas to burn, this year with limited staff and funding, we focused even more on priorities. Late winter burns focused on wetlands that would open dense stands of vegetation to allow for pumping. As spring progressed, we began focusing our burns on areas containing voluntary trees. Those containing heavy fuels, primarily undesirable plants were ranked higher in priority. Burning bromegrass units for the purpose of encouraging native grasses were so low priority that we were not able to burn those areas. The one exception to the priority burning was Funk WPA. Burning was done over the entire WPA to improve herbicide application on thistle.



No tort claims were filed in association with our burning.

c. Evaluation

Each burn is assessed for its success at meeting the objective of the prescribed burn. Most of that is done by visual observation. Our problem with monitoring is it is difficult to justify the staff time to do physical measurements when years of experience has shown that prescribe fire is the best tool available to remove woody vegetation and litter. It is in our interest to remove the ground level duff in wetlands so the high spring winds can help scour the wetland basin, as it did prior to settlement.

We have noted that we rarely consume ground level duff and very rarely burn into the duff during prescribed burning. It appears that humidity levels outside the burn area should be below 40% (<20% is ideal) and air temperatures should be above 60^{o}F with sunny exposure. Subsurface layers (0-6" deep) should not be frozen and organic material should not stick to your fingers. Even if ideal conditions occur during the burn, it is likely that the above and below-ground duff layer will not burn. A second burn of the duff layer would need to be after the sun had dried out the material. This is hard to justify when other areas need to be burned.

10. Pest Control

Weed control is considered high priority on this station with almost everyone on staff expected to spent their fair share of time on control. In 2004, we believed 2005 would have less thistle problem because of the low numbers in 2004. That proved wrong. Most WPAs had musk thistle (47). Canada thistle was found on 12 and leafy spurge on 5. Crown vetch is becoming a larger problem. It was found

and sprayed on 23 properties. Of these, eight were targeted for an additional visit, specifically for boom-spray crown vetch, because patches were too big for ATVs to tackle. We can only attribute the increase to ideal germination and growing conditions (good spring rains) since our goal is to treat over 95 percent of all plants occurring on WPAs. To reach this high of level, each WPA is visited at least twice during the weed season. Problem areas are visited a third time. Those included Peterson, Harvard, Hannon, and Mallard Haven.

The 2005 spray season may have been our most effective ever. Several factors contributed to making this possible. First, and foremost, was having three tractors spraying at Funk. The new 500-gallon spray tank on the John Deere 8400 enabled us to spray the wetland basin without fear of getting stuck, and the large-capacity tank required less downtime to refill, and it sprayed a swath over forty feet wide. At times the 8400 and both small John Deere tractors, one with a boom and the other with a boomless spray rig, were all operating at once. Spraying from tractors at Funk was not only more efficient than attempting the job from ATVs, but it freed up crews so that they could expend more effort on other WPAs. The 8400 and small tractors were also used at Johnson—another great help.

We kept two 1,000 gallon truck-mounted water tanks staged at Funk throughout the spray season. The Co-op in Axtell allowed us to fill our tankers from their quick-fill, enabling us to refill each tank in about twelve minutes. Slip-in fire pump units were again used for weed spraying. They allowed crews to be self-sufficient since the crew could pull an ATV trailer, and have all the water necessary for the day's work with just one vehicle.

We may have multi-flora rose at Lange. This will have to be verified, and, if so, controlled next year. A single salt cedar tree was found and removed from Johnson. We will need to keep a close eye out in that area to find any new occurrences as quickly as possible.

Mark was directed to obtain the necessary permission and arrange for a spring, 2006 aerial application of Roundup on the heavy Canada thistle areas on Funk and Johnson. Mark also did an excellent job of providing pre-season herbicide application training. It included herbicide spray rates, equipment, protective gear, chemical safety and health hazards, and weed identification.

a. Mapping of Weeds

This is the first year that we have been able to make more than a token effort at entering weed control efforts into ArcView. Each morning crews were given aerial maps of the WPAs they would be visiting that day so that they could document the species treated and their location. Data was entered during the winter months. ArcView data are based on the maps of 90 visits and staff memory for missing maps. From what we learned in 2005 we should be better able to document 2006 efforts.

b. Pesticide Applications

Below is a summary of pesticides applied in 2005. A detailed table can be found in the attached CD in the file named: 2005_IPM_Report_Rainwater_Basin_WMD.xls

Pesticide	Pest Species	Habitat Type	Acres Treated	Total Pounds of AI or AE Applied	Level of Control Obtained (%)	Chemical Costs (Service Costs Only)
Cornbelt 4 LB. Amine 2-4D	Thistles (musk, Canada, bull), crown vetch	Grassland	170	167	65	$440.00
Rodeo	Canada thistle, purple loosestrife, phramites	Wetland			-	

Pesticide	Pest Species	Habitat Type	Acres Treated	Total Pounds of AI or AE Applied	Level of Control Obtained (%)	Chemical Costs (Service Costs Only)
Roundup Pro (broadcast)	Canada thistle, leafy spurge, reed canary grass, smooth brome	Grassland	731	886	75	$9,840.00
Roundup Pro (stump)	fresh cut trees	Grassland				
Curtail	Thistles (musk, Canada, bull), crown vetch	Grassland	2088	873	75	$7,920.00
Spike 20P	tree stumps	Grassland			-	
Plateau	leafy spurge	Grassland	12	1	80	$140.00
Transline	Thistles (musk, Canada, bull), crown vetch	Grassland			-	
Arsenal	fresh cut trees	Grassland		10	75	$130.00
Totals			**3,001**	**1,937**		**$18,470.00**

An extensive weed report (2005_Weed_Management.doc) identifying activity and species associated with individual WPAs is stored on the CD attached with this narrative.

11. Water Rights

We are coming close to the end of our water service contracts with Central Nebraska Public Power and Irrigation District. The drought conditions have caused CNPPID to allow owners of service contracts to transfer that contract on all or a portion of the holder's land on a one year basis. We transferred ours in 2005 and plan on doing the same in 2006, if offered. The result of this action was delivery of no water but also no cost associated with the contracts. The table below shows the remaining contracts, the amount available, and the amount used, which was none in 2005. The amount available shown is the table is the amount under normal conditions. In 2005, the amount of delivery was only half of what the table shows.

WPA Unit	Contract acres	Acre-feet Available	Delivered
Funk NE Unit #6170102	39.0	58.5	0
Funk	177.0	265.5	0
Funk NW #6171006	49.0	73.5	0
Funk Mallard Unit #6171101	66.0	99.0	0
Funk -S #6171605	80.0	120.0	0
Funk Teal #6171606	57.0	85.5	0
Funk Total	**468.0**	**702.0**	**0**
Victor Lakes #7210105	10.0	15.0	0
Victor Lakes #7211203	30.0	45.0	0

WPA Unit	Contract acres	Acre-feet Available	Delivered
Victor Lakes Total	**40.0**	**60.0**	**0**
Grand Totals	**582.0**	**873.0**	**0**

12. Wilderness and Special Areas

Our station does not have a wilderness area located in a sea of corn and soybeans. One special area we do have is the Platte River Wildlife Management Area located two miles south and east of Kearney. The property is owned by the state of Wyoming and administered by their Wyoming Development Commission. There was a past management agreement between the Service and Wyoming authorizing the Service to manage the area for wildlife. That agreement has expired and our office has opted to continue to assist with management without extending the agreement. It is an interesting arrangement with the Service providing this service free to Wyoming for the benefit of the people in Nebraska. The spread of purple loosestrife has become extreme along the Platte River. It would not be in the Service's interest to agree to manage the property (with a signed agreement) unless there was financial reimbursement for weed control. Since we do not have purple loosestrife on our properties it would not be wise for us to use our equipment to spray on the Platte River since it would just provide an avenue for us to spread the seed to WPAs.

In 2005, we discussed management with Wyoming on two issues. The first is that the land use permit with the tenant has been between the tenant and Wyoming. Even though we wrote the management requirements, the tenant would try to work around us to change grazing lengths, etc. The second issue was that our station was incurring costs of staff and herbicide but Wyoming was keeping all the revenue off the property. After going through much Wyoming bureaucracy, they agreed to have management agreements be solely between the tenant and our office. Regarding the money, they said we could have **all** the money above their needs—which is none. Limited staff and funds have lowered management on Wyoming to a bare minimum.

13. WPA Easement Monitoring

No WPA easements exist within the District. This office enforces thirty-eight FmHA easements. No violations were found in 2005.

G. WILDLIFE

1. Wildlife Diversity

Progress is being made with increases in wildlife diversity found on refuge lands within the District. In recent years, we have seen an increase in the number of sharp-tail and prairie chickens on WPAs. Hultine and Qaudhamer are the most recent ones having sharp-tail grouse. Hultine also has an active prairie dog town. The prairie dog towns re-established on McMurtrey and managed on other areas are expanding rapidly, making us start to think how we may be able to keep it under control. Maintaining tall vegetation and proximity to wetlands are our two natural barriers for control.

2. Endangered and/or Threatened Species

A total of eleven whooping cranes were documented stopping in Nebraska during fall migration. None occurred in the Rainwater Basin in the spring or fall. Six used a section of the Platte River downstream of Grand Island. A group of five used Hagen Lake in Brown County.

3. Waterfowl

Four aerial habitat assessment flights occurred during spring migration (See Spring_Aerial_ Surveys.xls) . The general flight pattern was flying the Platter River upstream to Lexington, then south and back east across the RWB, then back to the Platte River by Grand Island while heading back to Kearney. Basin conditions and light goose flock locations were recorded. Aerial photographs were taken to document habitat conditions at that time. The photos were used later to correct habitat estimates. Peak numbers of snow geese occurred on or about 26 February 2005.

Seven immature hooded mergansers were seen on Harvard on May 22. Three were also seen on Wilkins.

4. Marsh and Water Birds

Our station assisted the Migratory Bird Office with their Coordinated Spring Survey of Mid-Continent Sandhill Cranes for the fifth year.

Rare bird sightings included two snowy egrets (May 19) at Wilkins, three common terns at Harvard (May 22), and approximately 1200 black terns at Harvard on May 22.

5. Shorebirds, Gulls, Terns and Allied Species

The shorebird pond index fluctuated from low in early April to high in early July and back down to average by fall. In May, more than 80% of the seasonal and semipermanent wetlands were ponding water, and by 19 July after some heavy rains, 94% of the semipermanent wetlands were ponding water.

The following observations are a compilation of Ross Silcock's and Joel Jorgensen's observations on the weekend of May 21-22, 2005:

- *Buff-breasted sandpiper total to date: 3430, but none on May 22. The migration appears to be winding down, but a very successful field season.*
- *Hudsonian godwit: The day's total on May 20 of 1033 at Freeman Lakes was a RWB all-time high, and almost the same as the all-time high from Cheyenne Bottoms, KS. Also an amazing 726 at Wilkins WPA May 19. Still 184 at Freeman Lakes May 21 and 107 at Wilkins WPA May 22*
- *Black-necked Stilt: 5 birds at Harvard Marsh May 22, with 2 nests, one of which had one egg. It seems laying had just started. Also one at Brauning WPA May 19*
- *Glossy ibis: one at Harvard May 22 carefully studied showed no signs of hybridization. One at the Trumbull basin May 19*
- *Black-bellied plover: May 18: day total of 381, including 176 at Wilkins, 165 at Griess WPA, and 40 at Trumbull basin*
- *Whimbrel: 34 on May 18, including 20 near Grafton (Morphy, Brauning, and Wilkins)*
- *Ruddy turnstone: 12 on May 18; 59 on May 19, incl 42 at Wilkins; 6 on May 20, and 3 on May 22*
- *Short-billed dowitcher: 89 on May 18, including 35 at Griess WPA (more common the farther east you go in the RWB)*
- *American golden-plover: 21 at Wilkins May 22*
- *Marbled godwit: 8 at Ducks Unlimited complex near Verona May 22; very unusual, might be juveniles*
- *Red-necked phalarope: 1 in York Co May 18*

6. Raptors

7. Other Migratory Birds

8. Game Mammals

9. Marine Mammals

10. Other Resident Wildlife

Greater prairie chickens appear to be increasing in numbers in the area around Griess-Wilkins-Rauscher, which have extensive grassland; 2 leks are known in the area. Chickens were also documented at Hultine, Massie, and Harvard. And Eastern meadowlark was observed at Harvard on May 22; this is a rare species in the eastern district. Single wild turkeys were seen at County Line and near Mallard Haven; still rare in the eastern district. Turkeys were also documented at McMurtrey, Eckhardt, and Macon Lakes.

11. Fisheries Resources

12. Wildlife Propagation and Stocking

13. Surplus Animal Disposal

14. Scientific Collections

15. Animal Control

16. Marking and Banding

17. Disease Prevention and Control

a. Cholera

The first cholera pick-up occurred on 2/24/05. Again this year, cholera mortality was minimal with a total of 658 birds picked up from 15 monitoring trips to 10 WPA's (see Waterfowl _Mortality.xls). Hunting appears to have an inverse relationship with cholera mortality on both basins that are open and closed to hunting.

Another cholera study was published in 2005 (Journal of Wildlife Diseases, 41(1), 2005, pp. 48-57. This research was conducted in the Playa Lakes region (2001, 2002) that confirms lesser snow geese and Ross' geese as carriers of the disease. Two competing hypothesis have been proposed to explain the recurrent pattern of avian cholera outbreaks: 1) P. multocida persists in specific wetlands year-round in the water, soil, or other reservoirs and 2) waterfowl carriers of P. multocida initiate disease outbreaks as migratory birds congregate in staging and wintering areas (Samuel et al, 2005). Persistence in the environment has never been proven in the RWB and the likelihood that this disease is picked up in the RWB is improbable

b. Chronic Wasting Disease

No significant change has occurred in the status of chronic wasting disease in the District. One case was found in 2004 but none since.

c. Avian Influenza

Concern about avian influenza has dramatically increased this year. The highly pathogenic strain of H5N1 avian influenza has spread past Asia and is expected to reach the states in 2006. I am sure more detail and planning will occur in 2006.

H. PUBLIC USE

1. General

Public use continues to be primarily associated with hunting and bird watching. Much of the outreach our staff does with the public is in the form of technical assistance. That is providing information to help neighboring landowners and agencies make management decisions on their lands. Our Private Lands staff is involved in this on a daily basis.

As a station, we capitalize on opportunities to inform people about land management. Various staff has given formal presentations. The presentations ranged from profession presentations at workshops, to presentations to sporting groups, to county commissioners, and the 2005 Prescribed Fire Conference.

2. Outdoor Classrooms - Students

3. Outdoor Classrooms - Teachers

4. Interpretive Foot Trails

A new information kiosk was constructed and installed at Funk to replace the one destroyed by vandals.

We began construction of an extensive interpretive trail system at Funk. The trail will follow existing dikes as well as along wetland edges and uplands. The existing dikes were too narrow to allow safe usage by the public. Sediment material from the wetland basin is being removed to widen the dike and improve the slope or shoulders. Although the work is focused on creating trails, we are benefiting from removing mounds of dirt (deposited by previous owners), which encouraged Canada thistle.

5. Interpretive Tour Routes

6. Interpretive Exhibits/Demonstrations

7. Other Interpretive Programs

8. Hunting

The NGPC recommended the Light Goose Conservation Action continue with current guidelines through 2005.

9. Fishing

10. Trapping

11. Wildlife Observation

- General observation trends for grassland birds appear to be rising. Prairie chicken, bobolink, grasshopper sparrows, and short-eared owl observations appear to be more frequent and occur on more areas each year.

12. Other Wildlife Oriented Recreation

13. Camping

14. Picnicking

15. Off-Road Vehicling

16. Other Non-Wildlife Oriented Recreation

17. Law Enforcement

Our station continues to have two collateral duty officers: Ronnie Sanchez and Steve Karel. We received a new L.E. vehicle this year to replace Steve's vehicle. Citations continue to be associated with hunting. In-service at Marana, Arizona and re-qualifications were completed by both officers.

We did experience a couple of trespass problems with neighbors parking their center pivots on our WPA after the growing season. Apparently they thought it make it handier for them to farm their ground.

18. Cooperating Associations

19. Concessions

I. EQUIPMENT AND FACILITIES

1. New Construction

The Regional Office decided to move forward with obtaining a new rental area for our office and shop. The space and facility requirements were identified and forwarded to GSA for action. Those here, who have been in this office for over a decade and have seen similar initiatives, are not holding their breath.

A new kiosk was purchased and installed at Funk. The project included installation of a concrete pad for handicap access. We also installed barrier posts to prevent future vandalism that uses a vehicle as a battering ram.

A new fence was constructed along the northwest line of County Line. It consists of about ¼ mile of high-tensile, four strand wire.

Crowded meeting room, complete with no windows or ventilation

2. Rehabilitation

A water control structure was added to the road culvert on the Bittern Unit at Funk. This allows us to hold shallow water in the unit before it drains through the culvert.

Constructing kiosk at Funk WPA

The discharge pipe on Quadhamer was replaced to update it to state regulations and to provide accurate meter readings.

3. Major Maintenance

The final grain bin was removed from Cottonwood WPA. We also got final approval from Phelps County to close the east-west road dividing Johnson WPA. The agreement was to install gates on both ends with the adjoining landowners having access through the gate.

120 yards of gravel were applied to the McMurtrey road.

The engine on the Clark 290 scraper was rebuilt for a cost of $12,000.

4. Equipment Utilization and Replacement

Equipment obtained include:

- 2005 Ford F-150 Law Enforcement pickup
- 2005 Ford F-350 Flatbed work truck
- 2005 Ford Escape Hybrid
- 2005 963 Caterpillar crawler loader
- 1960's vintage Caterpillar earthmover from LaCreek NWR
- 1979 flatbed dump truck from Kirwin NWR
- Marshal tree saw—Bobcat attachment

2005 963 Caterpillar crawler loader

Equipment removed from the station include:

- 12 F motor grader transferred to Audubon NWR
- Duece and ½ military Kaiser Jeep (GSA auction)
- 1991 Brown Dodge pickup (GSA auction)
- 1991 White Dodge pickup (GSA auction)
- 1992 Silver Dodge pickup (GSA auction)
- 1988 Blue Dodge pickup (GSA auction)
- 1991 S-10 Chevy Blazer (GSA auction)

5. Communications Systems

We rely entirely on cellular telephones, with each person having one assigned to them.

6. Computer Systems

We experienced quite a bit of problem with hard drive failure on the new Dell computers purchased the previous year. Some data was lost but not anything significant. It is interesting to see how much information one saves on a hard drive that one never misses. We would have been in deep trouble without the skills of Susann and Harold Cayouette. Much of their time was donated freely.

7. Energy Conservation

Our greatest demand for energy is transportation. Each day we have several work trucks heading in various directions throughout the District. Since we need large pickups to do the work, we can only save fuel by going to 10-hour, four day work weeks. We also try to combine more staff in one vehicle. This only works during fire and weed season.

Energy use for pumping is being conserved as much as possible by pumping late in the fall to reduce water loss. Vegetation management also reduces the amount of water that needs to be pumped to obtain wetland habitat.

8. Other

J. OTHER ITEMS

1. Cooperative Programs

2. Other Economic Uses

3. Items of Interest

4. Credits

INDEX